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Everolimus or ribociclib in patients with HER2-negative, hormone-receptor positive metastatic breast cancer and circulating tumor cells: Results from DETECT IVa

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Background

DETECT-IVa is a single-arm, open-label phase II study for postmenopausal patients with HER2-negative, hormone-receptor (HR) positive metastatic breast cancer (MBC) and HER2-negative circulating tumor cells (CTCs) in the 1st – 3rd metastatic treatment line. The main aim of the study was to assess the suitability of CTC clearance to provide prognostic and/or predictive information regarding treatment efficacy.

Methods

DETECT IVa (patient recruitment from 2014 – 2020) comprised two subsequent patient cohorts receiving endocrine therapy combined with the mTOR inhibitor everolimus (until 2018, n = 90) and the CDK 4/6 inhibitor ribociclib (after EMA approval in 2018, n=26). Here we present data on progression-free survival (PFS) and overall survival (OS) for the full patient cohort (n = 116) as well as data on the association between CTC clearance rate and survival. CTCs were analyzed using the FDA approved CellSearch© system (Menarini Silicon Biosystems).

Results

In the overall cohort, median OS was 24.1 months (95% CI 18.4 – 29.9 months) and median PFS was 6.2 months (95% CI 5.2 – 7.2 months). In the everolimus cohort, median OS was 20.2 months (95% CI 17.4 – 23.0 months) and median PFS was 5.5 months (95% CI 4.3 – 6.7 months. In the ribociclib cohort, median OS was 32.6 months (95% CI 26.6 – 38.6 months) and median PFS was 8.5 months (95% CI cannot be calculated) Median number of CTCs at baseline for all patients was 6.0 (range 1 – 400 CTCs). CTC assessments at the end of study treatment were available for 46 patients, of whom 36 patients (78.3%) had to terminate study treatment prematurely, mostly due to progress. CTC clearance rate at the end of study treatment in the full patient cohort was 45.7%, and CTC clearance rates for the everolimus and ribociclib cohort were 37.8% and 77.8%, respectively. Overall, patients with CTC clearance at the end of study treatment had significantly better PFS (hazard ratio 0.44, 95% CI 0.20 - 0.94, p = 0.035) and OS (hazard ratio 0.31, 95% CI 0.14 – 0.68, p = 0.002) than patients with CTCs.

Conclusions

CTC clearance at the end of study treatment is associated with improved outcome and might be used to assess treatment response.

Clinical trial identification

EudraCT 2013-001269-18, NCT02035813.

Legal entity responsible for the study

Universitätsklinikum Ulm (AöR), Albert-Einstein-Allee 29, D-89081 Ulm.

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Disclosure

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